



CAA Compliance Inspection Report

Partial Compliance Evaluation Columbia Pacific Bio-Refinery

Clatskanie, Oregon

Inspection Date: September 25, 2015

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12/7/15

Date

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Attachments

Attachment 1	EPA Region 10 Photolog
Attachment 2	Facility Location Maps
Attachment 3	ODEQ Permit 05-0023-ST-01
Attachment 4	ODEQ Permit 05-0023-ST-01 Review Report
Attachment 5	EPA Region 10 FLIR GF320 SOP
Attachment 6	CPB PCE Memo - FINAL 20151002

1. Basic Facility and Inspection Information

Facility: Columbia Pacific Bio-Refinery (Global Partners)
Clatskanie, OR

Mailing Address: 81200 Kallunki Road
Clatskanie, OR 97016

AFS Number: None

FRS Number: [110038366979](#)

SIC: 5171, 5169, 4491 – Marine Vessel Petroleum and Ethanol
Loading and Unloading

NAICS: 424710 – Petroleum Bulk Stations and Terminals
488320 – Marine Cargo Handling

Permit Number: Standard ACDP 05-0023-ST-01
Expiration Date: August 1, 2019
Oregon Department of Environmental Quality

Facility Contact: Brandon Gimper, Environmental Manager, 503-728-7022

Agency Inspectors: Zach Hedgpeth, Sandra Brozusky, EPA Region 10

Date of Inspection: September 25, 2015

Date of Report: December 7, 2015

Disclaimer

This report is a summary of observations and information gathered from the facility at the time of the inspection. The information provided does not constitute a final decision on compliance with CAA regulations or applicable permits, nor is it meant to be a comprehensive summary of all activities and processes conducted at the facility.

2. Introduction

The facility located at 81200 Kallunki Road north of Clatskanie, OR is currently a crude oil rail-to-vessel trans-loading facility. The facility previously operated as an ethanol manufacturing plant. A more detailed description of facility operations is included below. The facility operates under a Standard Air Contaminant Discharge Permit (ACDP) issued by the Oregon Department of Environmental Quality (ODEQ) to Cascade Kelley Holdings, LLC dba Columbia Pacific Bio-Refinery. The company is a subsidiary of Global Partners, LP. This report refers to the facility as CPB or “the facility”.

Maps showing the location of the facility are included as Attachment 2. The facility is a minor source of air pollutants according to its air permit. Potential sources of air emissions at the facility which were identified during this inspection include:

- Crude oil railcars and unloading of railcars
- Crude oil storage tanks
- Crude oil pipeline infrastructure
- Crude oil vessel and loading of vessels, including vapor combustion units

The facility air permit issued by ODEQ is included as Attachment 3, and the associated technical support document is included as Attachment 4.

The primary focus of this partial compliance evaluation (PCE) Clean Air Act (CAA) inspection was observation of facility operations using a FLIR GF320 infrared gas imaging camera. The specific camera used during this inspection was S/N 44401715. Use of the camera during this inspection followed U.S. EPA Region 10 Office of Environmental Assessment Standard Operating Procedure OEAFIELDSOP-111 entitled “Optical Gas Imaging with a FLIR GF320 Infrared Camera”, which is included as Attachment 5.

3. Process Description and Summary of Operations

This process description and summary of operations has been compiled based on verbal information given by facility representatives during the inspection and information contained within the facility air permit and review report.

The CPB facility outside of Clatskanie, OR receives Bakken crude oil via railcar, stores the crude oil in two 100,000 barrel above ground storage tanks, and loads Bakken crude oil into marine vessels. Crude oil is transported between the rail receiving facility, storage tanks, and vessel loading facility via above ground pipeline. The facility is not segregated, and handles only one product. The storage tanks and pipeline infrastructure were originally installed to convey and store ethanol as part of the previous use of the facility as an ethanol manufacturing plant.

The rail unloading facility employs a vacuum relief air balance system to control emissions of volatile organic compounds (VOCs) from the railcars during the unloading process. The facility is equipped to unload twelve railcars simultaneously (two lines of six cars on parallel tracks). During the unloading process, the twelve cars that are being unloaded are connected to the vacuum relief air balance system, which includes a central vapor tank and vacuum relief valve. As oil is drained from the railcars, ambient air is drawn through the vacuum relief valve and allowed to enter all twelve interconnected railcars to balance the volume of crude oil withdrawn.

When operating properly, this system is capable of achieving a high degree of emission control during railcar unloading. Once the cars are unloaded, each empty railcar is now filled with ambient air mixed with VOC vapors from residual crude oil left in the car. These vapors will be released the next time the railcar is allowed to vent (i.e., the next time it is filled with product). If the railcar loading facility which is subsequently filling the railcars with product is not equipped with a vapor collection and control system, these vapors will be released to the atmosphere.

The barge loading facility employs an active vapor collection and control system which applies a vacuum to the barge storage vapor space while the vessel is being filled with crude oil. The system collects the displaced air in the vapor space (containing VOCs) under negative pressure, and routes these gasses to four propane fired combustion units onshore adjacent to the dock.

The two 100,000 barrel storage tanks are fixed roof tanks equipped with internal floating roofs and rim or “eyebrow” vents.

4. FLIR Video Memo – October 2, 2015

The week following the onsite inspection, a brief memo was prepared containing descriptions of the infrared videos collected during the inspection. This memo is included as Attachment 6 to this inspection report.

5. Pre-Inspection Communications

On Monday, September 21, 2015, I placed calls to Mr. Brandon Gimper, Environmental Manager, and Mr. Dan Luckett, General Manager at the facility. Pre-inspection research had indicated that facility operations such as rail unloading and barge loading were intermittent, and depended on market demand. Based on the understanding that facility operations of interest for observation during an air compliance inspection (specifically including railcar unloading and vessel loading) were not continuous, the compliance team determined to conduct this PCE with limited notice in an attempt to arrange the inspection to observe the operations of interest.

On 9/21/15, I left a voicemail message for Mr. Gimper, and was able to speak with Mr. Luckett. During the conversation with Mr. Luckett, I learned the following regarding the expected operational schedule for the facility that week:

1. The facility was planning to begin loading a barge on the afternoon of Friday, September 25, 2015. The operation was expected to begin during the afternoon and take approximately 34 hours to complete.
2. The facility expected a train to arrive on Wednesday, September 23, 2015 with a load of crude oil, but the facility would not be able to unload the train until barge loading commenced because the storage tanks were full.

Based on this operational information and other inspection activities in the Portland area, the inspection was planned for Friday, September 25, 2015. Mr. Luckett explained that he would be out that day, and suggested coordinating with Mr. Gimper.

On 9/23/15, I sent an email to Mr. Gimper confirming the inspection to be conducted that Friday. Mr. Gimper called back later that day and provided an updated schedule. According to the new information, the facility expected the barge to arrive at around 02:00 Friday morning, with loading commencing at about 05:00.

6. Inspection Activities – Friday, September 25, 2015 – 10:45 to 14:05

6.1. Arrival and Opening Conference

On the morning of Friday, September 25, 2015, we arrived at the CPB facility, located at 81200 Kalunki Road in Clatskanie, Oregon. Upon arrival, we checked in at the facility administration office, and presented our inspector credentials.

The opening conference was held in a conference room at the company offices and began at around 11:00. The following personnel were present during the entire opening conference.

- Brandon Gimper, Environmental Manager, CPB
- Doug Lenz, Plant Manager, CPB
- Dave McDaniel, Assistant Operations Manager, CPB
- Sandra Brozusky, Inspector, EPA Region 10
- Zach Hedgpeth, Inspector, EPA Region 10

Following a round of introductions, EPA staff presented their inspection credentials to facility staff and explained the scope of the inspection. I explained that Ms. Brozusky and I were federal compliance inspectors, and were onsite to conduct an EPA compliance inspection with respect to the Federal Clean Air Act and implementing regulations and permits. The scope of the inspection was presented as consisting of a facility tour and observation of various equipment and operations using the FLIR GF320 infrared gas imaging camera.

During the opening conference, I explained that the FLIR camera was not intrinsically safe, prompting a discussion of safety issues and any necessity of a hot work permit. Facility personnel expressed some concern with the camera being placed in too close a proximity with the railcars due to the desire to take a cautious approach to any safety issues. We agreed to observe any rail operations from upwind and to avoid the area in between the two rail lines. We also expressed our intent to take photographs during the inspection, which was verbally approved by the facility representatives.

Facility staff then explained that the facility was currently unloading crude oil from a train whose capacity was approximately 70,000 barrels, and loading a barge with capacity of about 150,000 barrels.

The following information regarding the facility history was also given verbally during the opening conference:

- The facility is a former ethanol plant which started operations in 2008, but ran for less than two years.
- The facility was purchased in 2011 by JH Kelley at auction. The intent was to restart ethanol production, but this did not happen. During this time, about \$25 million was spent in refurbishment of the facility.
- In February 2013 the facility was purchased by Global Partners, but retained the name associated with the original ethanol plant – Columbia Pacific Bio-Refinery.
- Crude oil trans-loading used to be a side business to ethanol manufacturing, but is now the main business.

The opening conference ended at about 11:20.

6.2. Rail Receiving Facility

Following the opening conference, we proceeded to the rail receiving facility. At the time of the inspection, the unloading process for the initial twelve railcars was in the final stages. Facility personnel explained that the majority of the oil in the railcars is unloaded via gravity by allowing the oil to drain into the receiving system. At the time of our observation of the rail receiving facility, the railcars had been substantially emptied of oil. Facility personnel stated that it would be several hours before the next set of twelve railcars were unloaded. The rail receiving facility is depicted in photos 53 and 54 in the photolog.

Two infrared videos were also collected of railcar gauging activities and the opening of a ball valve at the top of one railcar. These and other infrared videos collected during the inspection are described in Attachment 6, and included with this report on DVD.

Video 363 depicts railcar gauging. We observed facility personnel open a ball valve within the housing on top of the railcar and insert a segmented rod through the valve in order to measure the depth of oil within the railcar. Petroleum gas emissions from the open ball valve are visible in the video. On this measurement, the liquid depth was

reported as six inches. Facility personnel reported that this gauging task is normally performed on a subset of each batch of cars unloaded. The facility railcar unloading equipment can accommodate 12 railcars in each batch.

Video 364 shows a demonstration of opening the ball valve used in railcar gauging. The facility stated that these ball valves are not opened except for use during railcar gauging. We requested that the ball valve be opened in order to determine whether the railcars contained vapors. The video clearly shows a plume of hydrocarbon gas being released from the open ball valve indicating that the railcars are filled with gaseous hydrocarbons following unloading of the crude oil. The plume stops when the valve is closed.

We departed the rail receiving facility about noon.

6.3. Tank Farm

The next area to be observed was the tank farm, located some distance by road from the rail receiving facility and former ethanol plant. The facility operates two above ground storage tanks rated at 100,000 barrel capacity (~90,000 barrel working capacity according to facility personnel). The tanks are former ethanol tanks which were installed in the 1980's, and are designated as Tank #6105 (western tank) and Tank #6106 (eastern tank).

During our observation, Tank #6105 was being filled with crude oil from the train via an 8-inch diameter pipeline, while Tank #6106 was being drained via 14-inch pipeline with the product going to the barge.

The tanks are depicted in photos 55 and 56 in the photolog. Four infrared videos were also collected of the tank eyebrow vents. These and other infrared videos collected during the inspection are described in Attachment 6.

Facility personnel reported during recording of videos 365-368 that tank 6105 was receiving crude oil which was being pumped from the railcar unloading rack, while crude oil from tank 6106 was being pumped to the barge. Hydrocarbon gas emissions are evident from the eyebrow vents on tank 6105, while video 368 of tank 6106 is less conclusive.

We departed the tank farm at around 12:45.

6.4. Marine Loading Facility

After departing the tank farm, we proceeded to the dock and marine loading facility. At the time of the inspection, the facility was loading product into a Crowley ATB (articulated tug & barge). Vapors from the barge are routed to an onshore vapor combustion emission control device. At the time of the inspection, one of the four combustion units was operating; identified as "unit B" by facility personnel.

The dock, barge, and vapor control system are depicted in photos 57 through 64 in the photolog. Three infrared videos were also collected at the marine loading facility. These and other infrared videos collected during the inspection are described in Attachment 6.

Video 369 of the marine vapor control combustion unit exhaust stack shows a strong heat signature of the exhaust gasses which is consistent with information provided by a facility representative that exhaust gas temperatures are in the neighborhood of 2,000° F. The infrared gas imaging video appears to show a relatively minor residual hydrocarbon gas plume following heat dissipation from the stack exhaust.

At the time of inspection, no leaks were identified in the marine vapor collection line as indicated by video 370. Video 372 documents that no other hydrocarbon gas emissions were observed from the barge loading operation during the inspection. The two emission points visible in Video 372 were identified by the facility as diesel generators operating for purposes of barge operations.

We departed the marine loading facility at around 13:30.

6.5. Closing Conference

After departing the dock, we returned with facility staff to the rail receiving facility and held an informal closing conference. Personnel attending the informal closing conference included those who attended the opening conference with the addition of staff working on the railcar unloading process.

I began the closing conference by providing a brief description of the Region 10 compliance and enforcement process, informing facility staff that any compliance determination is made by staff of the Office of Compliance and Enforcement at a later date. No specific compliance concerns were discussed. The infrared videos collected were reviewed and briefly discussed, and it was noted that the inspection did not evaluate active crude oil receiving from railcar since this was not occurring at the time of the inspection.

The closing conference ended at approximately 14:05, and the EPA inspectors departed the facility.